

## **Cost Estimating Relationships Guidelines and Constraints**

### **NIRCam Funding Limitation**

NASA formulation and implementation phase funding for all aspects of the NIRCam science investigation is cost capped at \$50M real year dollars. As described in section 3.3 of the AO. It is planned that additional resources will be available to NIRCam via a CSA contribution of goods and services valued at approximately \$20 M (FY 96). As described in section 3.5 of the AO, a number of NIRCam subsystems will be provided to the offeror as government furnished property and should not be budgeted against the above NASA cost cap. The year-by-year NASA and CSA budget profile, required by the offerors' project plan for instrument delivery on the schedule outlined in section 3.10 of this AO, is to be proposed by the offeror within the above cost constraints.

### **Cost Estimating Relationship for NIRCam Detector Complement**

The Integrated Science Instrument Module (ISIM) flight system will provide a variety of common instrument support systems to be used by all of its science instruments (see: *ISIM Provided Services*, and *NIRCam Interface Requirements Document*). These systems include items such as: data signal chain, detector control electronics, C&DH electronics, data storage, and communications. Systems such as these are governed, in part, by a cost estimating relationship (CER) that is parameterized by the size of the mission detector complement and associated data volume.

The ISIM is a design to cost project and technical resources (mass, volume, power etc) available to its science instruments are limited by NASA cost constraints independent of other agency funding sources that may be available to a given instrument. The cost cap for the ISIM and each of its NASA funded science instruments is derived from a detailed phase A engineering design study involving a detector allocation of 48 Mpixels to the NIRCam, 16 Mpixels to the NIRSpec, and 1 Mpixel to the MIRI. The CER shown below was derived from this study and detailed vendor cost studies for NGST flight detector assemblies described in NGST document 641 and spares. It includes both detector costs and other system costs as mentioned above.

In the event that an offeror to this AO proposes an instrument design concept involving a larger or smaller detector complement, this CER will be used to estimate the resulting potential cost impact to the NGST system.



## Other Proposal Categories

The following funding levels are budgeted for support of other proposal categories as indicated below.

Thousands (Real Year)					
Scientist	Number	AO Section	Formulation FY02-03	Implementation FY04-10	Operations FY11-15
Facility	1	3.7.5	280.5	1,508.9	535.4
Telescope	1	3.7.6	280.5	1,508.9	535.4
Interdisciplinary	4	3.7.7	627.7	2,513.5	2,141.9
MIRI Team Member	3	3.7.4	490.9	1794.8	740.0